DOCUMENT RESUME

ED 214 466 HE 014 934

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TITLE Operating Ratios and Institutional Characteristics Affecting the Responsiveness of Black Colleges and Universities to Professional Allied Health Programs.
PUB DATE [Mar 82]
NOTE 8p.; Paper presented at the Annual Meeting of the American Educational Research Association (New York, NY, March 1982).

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Allied Health Occupations Education; *Black Colleges; *Expenditures; *Financial Support; Higher Education; Income; *Institutional Characteristics; Operating Expenses; Predictor Variables; *Program Implementation

ABSTRACT

Factors that affect the implementation of professional allied health education programs were studied at 64 four-year black colleges and universities that had no such programs before 1975-76. By 1980, six of the institutions had implemented these programs. Twenty-seven operating ratios and seven institutional characteristics were analyzed, based on Financial Statistics and Opening Fall Enrollment data from the Higher Education General Information Survey (HEGIS) for the 1975-76 academic year. Statistical methodology consisted of cross-tabulation, t-tests, stepwise discriminant analysis, and cluster analysis. Findings were limited because of the recency of HEGIS data and the resulting small sample population. Findings suggest that institutions with more resources (education and general expenditures per full-time-equivalent student) were the institutions that had implemented programs. However, it was also found that the institutions that had initiated new allied health programs were spending more than they received, while those who had not implemented new programs were spending less than they received. Ten operating ratios that were identified as possible predictors of whether black schools had implemented the programs include: current funds expenditures/revenues; mandatory transfers for auxiliary enterprises expenditures/sales and services of auxiliary enterprises; education and general expenditures/full-time equivalent students; tuition and fees/education and general revenues; federal grants and contracts/educational and general revenues. A bibliography is appended. (SW)

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OPERATING RATIOS AND INSTITUTIONAL CHARACTERISTICS AFFECTING THE RESPONSIVENESS OF BLACK COLLEGES AND UNIVERSITIES TO PROFESSIONAL ALLIED HEALTH PROGRAMS

Everlena M. Holmes and Loyd D. Andrew*

INTRODUCTION:

Higher education is generally perceived to have difficulty adapting and developing quality programs that are relevant to societal needs as defined by students and manpower requirements.[1] An example of this has been Black colleges and universities. These institutions are faced with a "declining rate of enrollment", as well as financial crises.[2] At the same time, there is a shortage of Black professionals in the field of allied health, and Black colleges and universities have been urged to implement professional allied health education programs.[3] With the demand for Black professionals in allied health, and the federal funding available to assist minorities to enter and complete allied health programs, it appears that Black colleges and universities would have responded better than they have to the demand for minorities in allied health. Yet, these institutions have not responded as anticipated. Of the 68 Black colleges and universities that had not implemented professional allied health education programs by 1975-76, only 6 had implemented such programs between 1975-76 and 1979-80.

PURPOSE OF THE STUDY:

The general purpose of this study was to test the validity of certain hypotheses concerning change, using a selected segment of the general population--a segment where need and opportunity have been well identified. The more specific purpose of this study, however, was to determine if certain variables (operating ratios and institutional characteristics), generally hypothesized in the literature as necessary for change, were predictors of whether or not Black colleges and universities had implemented professional allied health education programs between 1975-76 and 1979-80.

METHODOLOGY

This research involved the investigation of sixty-eight four-year Black colleges and universities that had not implemented professional

*The presenters would like to acknowledge the support, advice, and assistance of Dr. Harley Flack, Dean of the School of Allied Health Sciences at Howard University, and Drs. Lawrence McCluskey, M. David Alexander, and Houston Conley of Virginia Polytechnic Institute and State University.

allied health programs by 1975-76. This study used four analytical methods--(a) t-tests for independence, (b) stepwise discriminant analysis, (c) cluster analysis, and (d) cross tabulation--to test the hypotheses of the following research questions proposed for this investigation:

1. Do selected operating ratios serve as predictors of whether or not Black colleges and universities implemented professional allied health education programs between 1975-76 and 1979-80 (see: Table 1)?

2. Do selected institutional characteristics serve as predictors of whether or not Black colleges and universities implemented professional allied health education programs between 1975-76 and 1979-80 (see: Table 1)?

Data for answering these questions were obtained from the Higher Education General Information Survey (HEGIS) 1975-76 tapes on Financial Statistics and Opening Fall Enrollment.

MAJOR FINDINGS:

Cross tabulation and t-tests for independence of institutional characteristics did not identify any characteristics that discriminated between those institutions that had and had not implemented professional allied health education programs. However, independent t-tests of the operating ratios indicated that three ratios (see: Table 2) were significantly different between the two groups of institutions. Two of these three ratios were among the nine ratios that were produced by the stepwise discriminant analysis procedure to predict membership in the two groups of institutions (see: Table 2 also for the nine ratios).

The discriminant analysis procedure identified 61 of 62 institutions which had not implemented allied health programs, and 3 of the 6 which had implemented professional allied health programs.

The results of the SAS cluster analysis procedure are intriguing. This procedure did not prove as powerful as discriminant analysis in predicting group membership. It produced three groups; one had 34 institutions, 1 of which had introduced professional allied health programs; the second group had 33 institutions. In this group, 5 institutions had implemented professional allied health education programs, 7 are currently planning with the American Association of State Colleges and Universities

TABLE 1

Selected Operating Ratios and Institutional Characteristics Used in Determining Predictors of Whether or not Black Colleges and Universities had Implemented Professional Allied Health Programs

A. Operating Ratios

1. Academic Support (Including Library) Expenditures / Educational and General Educatitures
2. Balance Owed on Principle of Physical Plant / Plant Assets
3. Current Funds Expenditures / Current Funds Revenues
4. Current Funds Expenditures / Full-Time Equivalent Students
5. Current Funds Revenues / Full-Time Equivalent Students
6. Current Funds Revenues / Plant Assets
7. Educational and General Revenues / Current Funds Expenditures
8. Educational and General Expenditures / Educational and General Revenues
9. Educational and General Expenditures / Full-Time Equivalent
10. Federal Grants and Contracts / Educational and General Revenues
11. Federal Total Appropriations / Educational and General Revenues
12. Gifts, Grants and Contracts / Current Funds Revenues
13. Graduate Students / Undergraduate Students
14. Institutional Support Expenditures / Educational and General Expenditures
15. Instructional Expenditures / Educational and General Expenditures
16. Instruction Expenditures / Educational and General Reverues
17. Interest Payment on Plant Indebtedness / Current Funds Expenditures
18. Mandatory Transfers for Auxiliary Enterprises Expenditures / Auxiliary Enterprises Revenues
19. Operation and Maintenance Expenditures / Educational and General Expenditures
20. Plant Assets / Full-Time Equivalent Students
21. Private Gifts, Grants and Contracts and Endowment Income / Educational and General Revenues
22. Public Service Expenditures / Educational and General Expenditures
23. Research Expenditures / Educational and General Expenditures
24. Scholarships and Fellowships / Educational and General Expenditures
25. State Total Appropriations / Educational and General Revenues
26. Student Services Expenditures / Educational and General Expenditures
27. Tuition and Fees / Educational and General Revenues

B. Institutional Characteristics

1. Age
2. Control
3. Degree Level
4. Size (Enrollment)
5. Location (Region)
6. Related Programs (MODVOPPN)
7. Related Programs (Allied Health-Related)

Table 2

Operating Ratios Which Discriminate Among Institutions Implementing and Not Implementing Profesional Allied Health Programs

Operating Ratio	Independent T-Tests*	Stepwise Discrimination Analysis*
Current Funds Expenditures/Current Funds Revenues	X	
Mandatory Transfers for Auxiliary Enterprises Expenditures/Sales and Services of Auxiliary Enterprises	X	X
Educational and General Expenditures/ Full-Time Equivalent Students	X	X
Tuition and Fees/Educational and General Revenues		X
Federal Grants and Contracts/ Educational and General Revenues		X
Current Funds Revenues/Full-Time Equivalent Student		X
Interest Payment on Plant Indebtedness/ Current Funds Expenditures		X
Current Funds Expenditures/Full-Time Equivalent Students		X
Institutional Support Expenditures/ Educational and General Expenditures		X
Plant Assets/Full-Time Equivalent Students		X

*Indicates which operating ratios discriminate by analytical procedure.

to implement such programs, and 8 others have been encouraged to introduce such programs. The third group had one institution, which had not implemented professional allied health education programs.

CONCLUSIONS:

From the findings, it can be tentatively concluded that:

1. Certain operating ratios predict which colleges and universities are more likely to implement new programs than others. This conclusion is limited by several factors: (a) the analytical procedures and operating ratios may be more powerful than the findings (94 to 98 percent successfully) indicate. Because of the nature of the data base, it was necessary to use 1975-76 data. From the period 1975-76 to 1979-80, only six colleges and universities implemented professional allied health education programs. Therefore, the two groups of institutions--those that had and had not implemented professional allied health education programs--were unevenly divided: 62 and 6. Despite this, the discriminant procedure predicted 61 of the 62 institutions that had not introduced the programs. However, the fact that it failed to predict with equal success those that had implemented such programs may be an artifact of the small number. (b) The procedure was also constrained by a limited time period. The subjects had only four years in which to implement the program. The results of the cluster analysis and other information suggests that more colleges will be introducing programs.

2. What had been speculated about the effects of financial status on institutional survivability and adaptation is valid. As shown in the review of the literature, most authorities believe those institutions which have a strong financial base will be more likely to adapt. According to the findings of this study, those institutions that had more resources (I.e., educational and general expenditures per full-time equivalent students) were the institutions that had implemented professional allied health programs. Thus, the hypotheses and speculations of early researchers were supported by this study.

However, the study also showed that those institutions that had initiated new programs (i.e., professional allied health programs), were spending more than they received. Whereas, those who had not implemented new programs were spending less than they received. From this, it could be concluded that "institutional hunger" (i.e., lack of sufficient revenues, particular in auxiliary services) could have provided a stimulus for seeking new programs that would increase enrollments and revenues. It

could, also mean that those institutions that implemented professional allied health programs invested some "seed money" to initiate the programs, which may explain the Educational and General Expenditures by Full-Time Equivalent Students ratio that showed up as a significant ratio in the t-tests for independence, as well as a predictor in the stepwise discriminant model.

3. The methodology used in this study is powerful for classifying institutions in respect to factors affecting different outcomes. Therefore, it seems likely that institutional leaders, such as presidents of Black colleges and policy analysts, would find this methodology useful for examining the relative health of a single institution or in making comparisons with other institutions. The methodology also would appear to be useful for efficiently identifying a group of institutions for further study because their behavior differs from what is predicted.

RECOMMENDATIONS:

This study identified a set of operating ratios which successfully predicted institutional adaptation by members of the population that were used in the study. However, the findings of the study were limited because of the small population which had implemented professional allied health programs subsequent to 1975-76, the earliest dates for which reliable HEGIS data was available. Since the results were promising, despite this limitation, it is recommended that the study be replicated, using Black colleges and universities and a new market area, other than professional allied health education programs. It should also be replicated using a larger and more diverse population. One example of such a population might be those colleges and universities which have and have not implemented one of the various types of computer science or data processing programs.

Management is believed to be the critical factor in determining why certain institutions survive and adapt more readily than others, all other conditions being the same. This study has provided a group of institutions that behave differently although their conditions appear to be the same. Thus, it is recommended that the four institutions, that were misclassified by the prediction equation, be subject to an indepth analysis of their management. Such a study should more definitively ascertain the affects of management of institutional adaptation.

The findings of this study, in particular those concerning the financial status of institutions which have implemented or are being encouraged to implement professional allied health education programs, should be considered by funding agencies who are directly or indirectly supporting new program areas. The findings of this study suggest that financial difficulties, in particular with auxiliary services, may be providing a major incentive for institutions to enter what could well be a viable field. However, professional allied health education is a relatively expensive program to develop and maintain. Therefore, those with a minimal financial base will have to find long-range support and may also have to make tough internal decisions on the reallocation of resources.

FOOTNOTES:

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